

Compliments of
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PELVIC INFLAMMATION IN WOMEN:

ITS PATHOLOGY AND TREATMENT.

A DISCUSSION.

BY

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I. ITS PATHOLOGY AND TREATMENT.

INTRODUCTION.

BY ANDREW F. CURRIER, M.D.,
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THE condition which is before us for discussion is not a new one. We cannot imagine a time when conditions favorable to the development of pelvic inflammation did not exist, and it confronts us every day, whether our work is in the city or the country. It is no respecter of persons; rich and poor alike are its victims. It is, therefore, a subject which should thoroughly interest every physician who is brought into contact with disease affecting the genito-urinary apparatus in women, be he general or exclusive in his practice. There is no one here with experience so extensive that he has become conversant with all that may happen in connection with pelvic inflammation. It is a familiar subject, and much discussed; but subjects of like importance demand frequent discussion, out of which new truths are evolved to the advantage of all.

Let us analyze our subject. The pelvis is made up of organs and tissues; scarcely a tissue of the body but has its representative here, and its organs are the seat of functions without which, save in exceptional cases, the result of traumatism or deformity, life is not sustained nor the race continued. If we exclude the inflammatory conditions which are peculiar to the bladder and its appendages, the uterus and vagina, and the rectum and sigmoid flexure, we still may have what is commonly and vaguely designated as pelvic inflammation remaining. Upon this rock many a theory has gone to pieces vainly endeavoring to follow shifting and misleading landmarks. A reason for the want of harmony among those who have spoken with a show of authority upon this subject is that they have studied it from different standpoints. One has studied it by pal-

pation through the hollow organs of the pelvis—the method of touch; another by inspection and touch through an incision in the abdominal wall—the method of the abdominal surgeon; another by inspection of the entire region after death—the method of the pathological anatomist. The variety of interpretations resulting from these different methods of study is not to be accounted for solely by differences in the mental perceptions of the investigators; the facts in each case are different, and yet all these methods have been useful and complemental to each other. The first method is imperfect because incomplete; it lacks elements which are often essential to the determination of a diagnosis. The last method is imperfect because death has wrought its changes upon the solids and fluids of the pelvis, and left gaps as to the condition which was present, which cannot always be assumed nor determined by any course of logic. The second is the method which takes nothing for granted, but discloses facts and relations without an intervening veil of tissue and with vital currents still permeating the living structures. In many cases this method is not available, but it has been employed in so many instances that it has given us a basis which enables us to reach correct conclusions where otherwise we could only have theorized.

Pain, exudation, suppuration, and elevated temperature are the phenomena of inflammation everywhere, and they are the phenomena of inflammation in the pelvis. The practical points are to explain and treat them rationally. Are they due to traumatism or infection, or both? What is the influence of parturition upon this question? also, of gonorrhœa, syphilis, surgical injuries to the pelvic structures, the congestion of menstruation, retained secretions within the uterus or vagina, and solid and cystic new-growths? Pelvic inflammation occurs with all these conditions, but it is my province in introducing this debate merely to suggest them and leave the solutions of the questions to others. Blood- and lymph-vessels and glands, nerves, muscular and cellular tissue, serous and mucous membrane are all present in the pelvis and are all susceptible inflammatory processes. Which of these are involved in pelvic inflammation, and to what extent? The uterine appendages may undergo varying degrees of inflammation and degeneration; when are they susceptible of cure and when is their presence a serious menace to health or life? To what extent should diseased portions of them be removed, and those which apparently have suf-

ficient vitality for functional purposes be retained? These are all questions of the highest importance, which concern the welfare and happiness of many of our fellow-beings either directly or indirectly. On our part they should call forth the most serious attention. This theme may be well worn, but we should not forget that however familiar we may become with the aspect of disease, its scientific consideration should never be allowed to overshadow its humane side.

II. NOTES ON THE PATHOLOGY.

BY A. J. C. SKENE, M.D.,
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WHILE the knowledge of the pathology of pelvic inflammations has greatly advanced in recent times, there is still a great diversity of opinion among authorities regarding its causation, and the relative frequency with which the several organs and tissues become involved. This difference of opinion results from a difference in the methods of observation. Some have drawn their conclusions from clinical histories and physical signs, obtained by manual and instrumental exploration; others have made deductions from post-mortem examination; while quite recently a number have based their opinions upon the observations which they have made after abdominal section. To reach the facts requires prolonged and oft-repeated observation from all these points of view. One of the difficulties encountered in the investigation, and one which has led to many differences of opinion in regard to the pathology, is that pelvic inflammations seldom comes singly. Many of them come together and so complicate each other that it is impossible to ascertain anything definite regarding the lesions, although investigated in every possible way.

It simplifies the subject and gives more definite results to consider separately the pathology of each form of inflammation which has been found to occur, and then to consider the groups which naturally and actually form.

1. *Pelvic Cellulitis*.—This was at one time regarded as the most frequent of pelvic inflammations, but recent observations show that it does not take first rank in this respect. Extremists have hinted that it is very rare, and that when it does exist it is secondary to peritonitis or salpingitis. As a matter of fact it occurs independently of either of these inflammations, and in this respect may be considered a distinct and primary affection. It is generally caused by sepsis, or by gonorrhoeal infection derived from the vagina or cervix uteri and transmitted to the cellular tissues through the bloodvessels or lymphatics, or by contusions of the

cellular tissue which cause extravasation and necrosis without any apparent extrinsic infection. These conditions are operative in the puerperal state especially, but may be due to injuries received during surgical operations. Another known cause, although a very rare one, is the rupture of a vessel in the cellular tissue, a pelvic apoplexy. This does not necessarily cause inflammation of a distinctive character, and only does so, perhaps, when the blood is in a morbid state.

These are the causes of primary cellulitis. The course pursued by the inflammation is the same as in cellular tissue generally. It may end in resolution or suppuration, the size and location of the abscess depending upon the extent of tissue involved. Pus is almost always discharged through the vagina, occasionally through the vaginal wall, rarely through the bladder or rectum. In a few cases the pus has burrowed outward and upward to the sheath of the psoas muscle. If the abscess opens at its most dependent part, evacuation and drainage are complete, and recovery is sometimes so perfect that no trace of the former disease can be found upon examination during life or after death. This fact has been used as an argument to prove that a cellulitis did not exist. This is not the invariable history of this form of inflammation. Suppuration may continue indefinitely, because evacuation is incomplete and the drainage imperfect, owing either to the location of the opening in the abscess, or to the fact that there is a large mass of inflammatory products honeycombed with small abscesses. In some cases the abscess wall is very thick and is a long time in disappearing after the sac has closed. This leaves a solid mass in the cellular tissue and some fixation of the uterus. This condition is called chronic cellulitis by some, but it bears the same relation to inflammation as do the ashes and charred timbers in a building to an extinct fire. There has recently been a disposition on the part of some to diagnosticate this condition as tubal, ovarian or peritoneal inflammation.

2. *Pelvic Peritonitis*.—This occurs as a distinct affection. Its presence alone has been recognized clinically and abundantly demonstrated post-mortem. The cause of primary peritonitis is sepsis conveyed through the lymphatics which run directly from the vagina and cervix uteri to the pelvic peritoneum. In this respect the causes of pelvic cellulitis and peritonitis are somewhat alike. When there are superficial abrasions of the mucous membrane, the

septic material in the vagina or cervix causes peritonitis, while deeper injuries, like lacerations, are prone to eventuate in cellulitis. This is only a possible explanation of well-known facts. Among the causes of pelvic peritonitis are: 1st. Certain constitutional conditions which predispose to inflammations of serous membranes, the most notable of which are advanced renal disease and tuberculosis. 2d. Rupture of a Graafian follicle, presumably having morbid contents. 3d. Exposure and excesses. The relative importance of these is not well established. This fact, however, is known: that inflammations of the pelvic peritoneum and the pleura occur as primary affections when the cause cannot be definitely discovered. Perhaps some pathological state of the blood may be responsible for the predisposition, and some unnoticed, slight traumatism may be the excitant. Secondary pelvic peritonitis will be referred to later.

Pelvic peritonitis may be circumscribed or may involve the whole pelvic peritoneum. In the primary form the process, as a rule, ends with transudation and exudation, and rarely does suppuration occur, unless the cause is sepsis of a virulent character, or tubercular. When suppuration occurs, or there is a large serous transudation, the pus or serum accumulates in the sac of Douglas and is (if the case does not end fatally) walled in by an exudate which bridges over the sac of Douglas. If the walling in is complete and protects the subject from fatal septicaemia, the pus is discharged through the rectum in all or the majority of cases, unless evacuated by the surgeon. Adhesions take place wherever the inflamed surfaces meet. In mild cases these are generally limited to the abdominal ends of the tubes and their nearest neighbors and the most dependent parts of the peritoneum. Recovery follows, but is slow in all cases and is seldom complete. The structures are less or more damaged by the exudate and adhesions, according to the extent of the disease, and in time, the exudate and even the adhesions may be taken care of by absorption. The products of this inflammation have in the past been mistaken for the results of pelvic cellulitis. While they usually cause pain and discomfort and impair the functions of the pelvic organs, they do not tend to a fatal result, and generally yield to prolonged treatment.

3. *Salpingitis*.—This form of inflammation seldom occurs alone. Primary cases are due to tuberculosis, a hemorrhage, or malformation in the form of occlusion of both ends of the tube. In the

latter the natural secretions accumulate and cause a limited inflammatory process. In the great majority of cases salpingitis is caused by endometritis, either catarrhal or septic. It is sometimes found to exist in the absence of all the other forms of pelvic inflammation which we have considered. When caused by a catarrhal endometritis, salpingitis either ends in recovery or in hydrosalpinx, which may in time excite pelvic peritonitis, or it may, by discharging into the uterus, end in recovery, but leave a less or more damaged tube; again, it may remain and give trouble until the tube is removed by the surgeon. When the cause is septic or specific, pyosalpinx usually results. This leads to other and serious complications and has no tendency to recovery, except when, after repeated attacks or one violent one of peritonitis, the diseased tube is walled in above, and by disintegration of the opposing tissues below it opens into the rectum or into the cellular tissue, and then finds an exit through the vagina or other pelvic viscera. This does not always terminate the disease. Prolonged suppuration and septicaemia may bring a fatal termination.

4. *Inflammation of the Ovaries.*—This occurs in a variety of forms, but there are only two which present distinct clinical histories: (a) the acute which ends in suppuration, and (b) the degenerative or so-called chronic ovaritis.

(a) *Acute Ovaritis.*—This is, as a rule, a secondary affection, the causes of which are puerperal and specific inflammations; also neoplasms and degenerative disease of the ovaries. Ovarian abscesses found in connection with puerperal metro-peritonitis are familiar examples of the former, and suppurating ovarian cysts illustrate the latter. The termination of ovarian abscess is in death, at least that is the tendency, the abscess rupturing and causing a fatal result by shock and peritonitis. The exceptions to this are when relief is given by the surgeon, before or at the time of rupture, and when the ovaritis sets up peritonitis before rupture and the ovary becomes walled-in in the sac of Douglas. Then the abscess may discharge through some of the pelvic viscera or be reached through the vagina or abdominal section. The great point to be observed in the pathology with reference to treatment is, that there is a difference between those cases in which the diseased ovary is lodged in the sac of Douglas and walled in by protecting exudate, and those that are not so guarded. This should deter-

mine whether the interference of the surgeon is to be immediate or delayed.

(b) *Chronic Ovaritis.*—This is characterized by histological changes rather than by the development of the products of ordinary inflammation, and is a very common affection. It has been claimed that it is caused by endometritis; the argument being based upon the similarity of structure of the endometrium and the ovarian tissue, and the fact that endometritis and this form of ovaritis usually coexist. Much might be said on this point, but time only permits me to add that this method of causation is not proven. As nearly as can be ascertained, the cause is a malnutrition, giving rise to certain degenerative changes which in their pathological histology bear a much more close resemblance to hepatitis and nephritis than to the products of inflammation in connective tissue and in serous and mucous membranes.

The ovary is peculiar in this, that each performance of its function entails a certain irreparable destruction of a portion of its tissue. It is an organ that is continually degenerating during its functional activity, and hence it is difficult to find the line of demarcation between the physiological destruction of tissue and the pathological changes which occur from inflammation; difficult, I should say, to all but those who have a proclivity to remove ovaries—surgeons of that diathesis find evidence of disease with a facility which startles skilled pathologists. Ovaritis of this form, in an ovary that is not displaced, does not tend to fatal results and hence does not call for ovariectomy. In many cases the degenerative changes in structure lead to atrophy and arrest of function, and the disappearance of all symptoms. Such atrophied ovaries are supposed to be the site of neuralgic pain, which is so violent and persistent as to call for extirpation. This is not invariably the condition which causes pelvic pain, if we may judge from the fact that removal of such degenerated ovaries does not always give relief.

Any of the inflammations here referred to may lead to one or to all the others. That is, instead of the one running its course alone and uncomplicated, it may develop secondary inflammation in any of the other organs or tissues. While either of them may occur alone they may all occur in succession and even coexist. Cellulitis often leads to secondary peritonitis, while it is rare that peritoneal inflammation extends to the cellular tissue. When such an extension

occurs it is usually from burrowing of pus that has been walled in, forming an abscess in the sac of Douglas. This takes place late in the progress of the disease and is sometimes considered a recurrence or relapse of the peritonitis. Along with the acute symptoms, which are lighted up by the burrowing of pus, come the physical signs of the cellulitis. When suppuration takes place in the cellular tissue it is often diffused and does not present a well-defined pus sac as in primary cellulitis. Peritonitis frequently damages the ovaries and outer ends of the tubes, but it is seldom that a general inflammation of either is caused by peritonitis. When all of these coexist, inflammation of the tube and ovaries comes first, as a rule.

Looking at the subject in its totality, there are a few facts which are well defined; the first of these is that, no matter where inflammation may begin or what parts it may finally involve, if the process gives rise to the formation of pus, this must in the majority of cases be removed by the surgeon either through the vagina or by laparotomy. Still another fact worthy of mention is that in case the inflammation subsides before suppuration occurs the resultant lesions are rarely improved by operative surgery; they do best upon general treatment. By way of making more clear the above statement in regard to the pathology, a word may be said about the lesions which remain or which may be developed after laparotomy. Certain of these remain after the operation. The adhesions which surround a tube filled with pus and need to be broken up or divided in order to remove the tube, re-unite sometimes and more adhesions form. This is inevitable and must be tolerated, but when a laparotomy is done for the purpose of diagnosis or to remove an inflamed organ which is presumed to be offending, the lesions are seldom improved and the suffering is not rendered less bearable to the patient.

III. ITS TREATMENT.

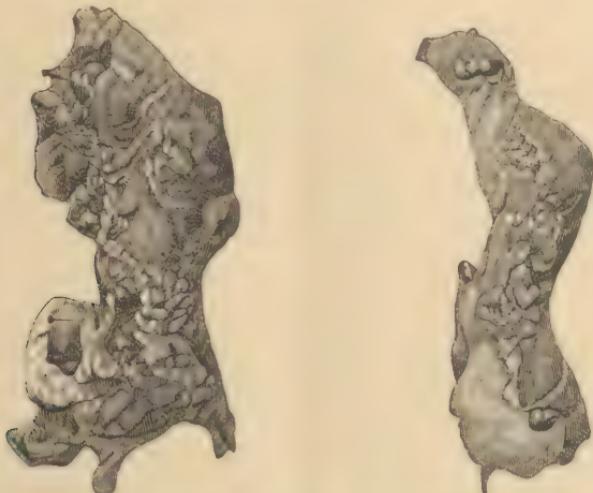
BY L. S. McMURTRY, M.D.,
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UPON the pathological doctrine accepted must rest the rational treatment of any given disease. Now that operative surgery has opened up the peritoneum to daily exploration, the vague and unsatisfactory teachings upon this subject—pelvic inflammation in women—are fast passing away, to be replaced by a practical appreciation of the true pathological process and resulting lesions. *Pari passu* with the advance in pathological knowledge has the radical treatment of tubo-ovarian disease as the focus of pelvic inflammation grown in the estimation of the profession. I have studied the literature of this subject carefully; have utilized some exceptional opportunities for clinical observation, and have endeavored to profit by an active experience at the operating-table. I accept unreservedly the teachings of Bernutz announced in 1862, confirmed by Polk in 1886, and demonstrated by modern pelvic surgery.

Pelvic cellulitis is such a rare condition that we may practically exclude it from a consideration of the operative treatment of pelvic inflammation in women. On the other hand, pelvic peritonitis is such a common affection, and occurs so often in recurrent attacks, with sequelæ so dangerous to comfort, health, and life, that it is the most important and constant of the affections encountered in gynecic practice. The accuracy of Bernutz's observations in proof of this statement has been abundantly verified by abdominal section on the living subject, so that I cannot see how further doubt or confusion can exist in the professional mind. Time and again I have demonstrated in my own practice by abdominal section that the hard masses within the pelvis above the lateral fornices, hitherto described as pelvic cellulitis, are in reality peritonitis with exudation surrounding chronically inflamed tubes and ovaries. The essential question is, Where is the starting-point of this inflammation and what is its cause?

As a rule, the inflammatory process begins in the membrane lining the uterus. By continuity it spreads to the mucous surface

of the Fallopian tubes, just as inflammation spreads along the respiratory tract or the urinary mucous membrane. The tubes are not provided with ready means of expelling increased secretion externally, and the discharges, whether they be mucus or pus, accumulate and distend these organs. Leakage naturally results through the fimbriated extremity of the tube into the adjacent peritoneum. Endometritis and endosalpingitis are the primary steps in pelvic peritonitis. Nature at once circumscribes the inflammatory process by a limiting wall of inflammatory exudate. The process thus limited may remain quiescent indefinitely, the tubes distended, the fimbriated ends sealed, and a mass of exudate enclosing tube and



ovary. As time goes on, the exudate becomes more dense and organizes into firm bands of false membrane. With the ebb and flow of the menstrual tide its vessels enlarge and persistent contraction goes on. From the time the peritoneum is involved pain is a conspicuous symptom; as contraction progresses this pain is intensified. The imprisoned organs undergo degenerative changes, their functions are impaired or destroyed, the woman is an invalid, and may at any time develop a fatal general peritonitis by rupture of one or both distended tubes. By way of illustrating a virulent type of tubal disease, I here present the tubes which I removed from a patient suffering with suppurative peritonitis from a ruptured tube, the sequel of gonorrhœal inflammation. The tubes were distended with pus, and one had ruptured into the general peritoneal cavity.

The etiology of the inflammatory process here considered—endo-

metritis, salpingitis, and peritonitis—will in a great majority of cases be easily traced to an infection. The peritoneum is an immense lymph-sac, and readily takes up infectious material deposited in its immediate vicinity. The traumasms of parturition, either at full term or prematurely, with the infections of the unprotected puerperal state, gonorrhœa, the introduction of unclean instruments, and the injury and exposure incident to many minor gynecological operations, are the principal causes of the disease under consideration. The severity of the inflammatory process and the degree of recovery vary. An attack may terminate in exudation of plastic lymph or in purulent effusion. Recovery may occur with damaged tubes and ovaries imbedded in plastic exudate and bound to the uterus and other adjacent organs. Such a recovery is a very imperfect one. The attack may end in pyosalpinx, with the ever-present danger of rupture and general peritonitis. In some cases the inflammatory process may quickly develop into general septic peritonitis.

It may be a simple catarrhal inflammation, resembling in character mild grades of pleurisy, terminating in slight adhesions, and doing no material damage to the intra-pelvic structures. Such are the cases which make good recoveries under palliative treatment. In my observation and experience the relation of an attack of gonorrhœa; of an abortion or miscarriage, or labor at term when necessary precautions to prevent infection are disregarded; of treatment for "womb disease," to pelvic inflammation is always apparent. Scarcely a case ever presents itself that the history and physical signs do not bear unmistakable evidence upon this point. The violence so common in probing the uterus in search of some fancied abnormality; the too frequent and forcible use of the curette, and unnecessary operations upon the cervix, open up the avenues of infection in many cases of peritonitis.

The treatment of the pathological condition described by appropriate surgical methods is but the application here of the principles universally accepted and adopted in other parts of the organism. From the view already presented of the pathological process it is clear that we are dealing with inflammation and its results in the Fallopian tubes, with or without ovaritis and peritonitis. The grade varies from a simple catarrh, through the several grades of salpingitis and circumscribed peritonitis with exudation of lymph matting together adjacent parts, false membrane, and effusion of

serum, on to suppurative and general systemic infection and death. The milder grades are oftentimes relieved by palliative measures without resort to surgical interference. Under the treatment so much in vogue—warm sitz-baths, rest, the hot douche, massage, counter-irritation, and local depletion—pelvic inflammation with extensive exudation may disappear and recovery ensue. Especially may this obtain under the use of the saline purgatives, by which an indirect method of peritoneal drainage is established. In order to such results the treatment must be applied when the inflammation is recent and the exudate unorganized. In more severe cases, by rest, the hot douche, counter-irritation, and purgation the patients will be improved, but not cured. The exudate may become absorbed in most part, but the appendages are damaged, inflammation in the pelvic peritoneum is prone to recur, and the patient is not permanently relieved. The extent of the changes in the uterine appendages can rarely be definitely decided by the bimanual touch. If the ends of the tubes are sealed, if the tubes be filled with serum, blood, or pus, the trouble will persist in spite of all palliative measures of treatment. If the tubes are distended with pus, the ovaries glued to the tubes, inflamed, and suppurating; if degeneration is going on in the structures involved, it is only a matter of time until rupture, peritonitis, and death will terminate the history of the case, if left to itself. When the symptoms point to the formation of pus there is no excuse for a single day of delay to dally with palliative measures. Here, as elsewhere in the body, the one supreme indication is incision, evacuation, irrigation, drainage, and removal of disintegrated structures.

Non-surgical treatment in the milder grades of inflammation may remove the products of inflammation deposited in the surrounding peritoneum, but fail to cure the diseased appendages. I am personally cognizant of a number of patients who have suffered comparatively mild attacks of pelvic inflammation, in whose cases there has been no indication of the formation of pus, treated by rest and the most approved non-surgical methods without permanent relief. The indications are not positive for surgical interference, since life is not endangered; but these women are unfitted for the duties of life, are confirmed invalids, and several have acquired the opium habit. These patients are improved by treatment, but are not cured.

When a patient presents the history of recurrent attacks of pelvic

inflammation it is at once indicative of leaky tubes. The proper treatment—the only treatment which will cure—is to remove the diseased appendages by abdominal section. It is folly to await the advent of rupture and general peritonitis before making a decision.

In conclusion, I beg to remark that it is amazing to see with what reluctance the profession has come to accept this great advance in pelvic surgery. For twenty-five years after Bernutz and Goupil announced the true pathology of pelvic inflammation the profession refused to accept the truth. Even now, when masses of suppurating tubes and ovaries are dug out of the pelvis in the midst of virulent peritonitis and the patients saved from a hitherto fatal condition, many eminent members of the profession write and speak with disapproval under the misleading title of "the castration of women." So far as I am aware, pelvic surgeons operate for disease only—never for reflex disturbances and obscure symptoms. In the treatment of pelvic peritonitis the result of tubo-ovarian disease, as herein described, by abdominal section and removal of diseased structures, the patient is rescued from a mortal disease, saved intense suffering, and restored to health, happiness, and usefulness.

IV. ITS TREATMENT.

BY JOSEPH PRICE, M.D.,
PHILADELPHIA.

THE pathology and the palliative and conservative treatment of pelvic inflammations in women having already been discussed by men of great and varied experience, it remains to be added to their statements and arguments, as exponents of a midway position in regard to operative advisability, that all the methods of conservatism and palliation are daily practised by those who most strongly urge the necessity for early resort to surgical interference as a means of obviating the necessity of mere palliation in a class of cases rendered incapable of relief by surgical endeavor, simply by the delay which at first strove to palliate them.

This is in no wise suggested as hostile to the plea of conservatism properly understood. It is rather urged as a plea for the necessity of discrimination in this class of work, whereby we are to determine which cases need early interference, which are in doubt, and which will be clearly made worse, on the one hand, by "palliation," and, on the other, by operative resort. The plea is urged by experimentalists, that by operation we mutilate our patient, that we unsex her, that we destroy the sexual instinct, and that hence we blight the peace of marital relations. Let us see. Given a wife whose every approach to the sexual act is misery, as the complaint so often reaches my ears, is there here no blight to marital relations, or must the idea of the hypersensitive surgeon and the prejudiced husband be nursed while the woman suffers?

Is there to be made no reckoning of pathological unsexing, even though the remains of worthless organs are present, and does removal do more than disease? We must say No, emphatically. We must agree that after a conception or two, if sterility follows, some pelvic lesion is usually found, often dangerous in its character and extent.

What, then, are some of the most important lesions that should lead us to an early resort to surgery? It is once for all to be in-

sisted that in the presence of adhesions the exact pathological condition cannot be accurately determined by the bimanual or any examination, neither can the amount of deposit be categorically insisted upon. It is to be remembered that adhesions simulate deposit, and that when these involve all the important pelvic viscera, when the latter are freed the amount of tissue to be removed may be very small. This shows that adhesions themselves may be a sufficient reason for operation, because of the pathological involvement they entail, and the suffering that consequently ensues. Next to simple or general adhesions is to be considered tubal occlusion, with or without the retention of fluid. If the fimbriæ of the tube are shut off from and bound down to the ovary, there is certainly a condition of sterility. The question of breaking up these adhesions to establish patency of the tube without other interference is, I think, for the most part deserving little serious consideration. The desire is meritorious, but the accomplishment, so little to be counted upon, and the risk consequent upon the attempt so fraught with the danger of the necessity of reoperation, that the odds are much against the experiment. Lest this statement may appear arbitrary, I need only refer to the difficulties of reoperation for adhesions. When these exist, the boldest and the most sanguine operator will greatly hesitate to promise to cure them or their complications by reinterference. Adhesions once formed after an operation are prone to reestablish themselves, unless a sufficient reduction of their territory can be obtained and their extent so reduced. In operation upon the pavilion this cannot be promised. In the presence of such facts it is plain that little can be promised by such procedure, and that the occasions for its adoption must be exceptional in the extreme. That once in a thousand times such plan may be successful is no reason for recognizing it as anything but an exception that proves the rule of its inefficiency.

When there are real degenerative changes in the appendages, only the extremists in the theory of conservatism see anything but loss of time in palliation. That tubes can be chronically enlarged receptacles for pus without being themselves diseased is, I believe, incapable of demonstration. He must be called into question who has put the statements on record in which huge pus tubes have been evacuated and the structure of the tubes found unchanged. We must here differentiate catarrhal deposit from pus and an acute from a chronic deposit. I have in my possession specimens which

I will gladly submit to any committee, and will await their decision whether in any one of them there was pus without a corresponding destruction of essential tubal structure. Then, again, cases are recorded in which conception followed when such a tube was allowed to remain.

It is to be regretted that these cases, like the tricks of the ancient magicians, are so recorded and witnessed as only to excite our wonder, without carrying sufficient proof to convince.

Mixed cases, in which pathological growths, combined with adhesions, are constant sources of danger and misery to the patient, need only to be cited in order to hold their place. I refer chiefly to small cystomata, dermoid cysts and suppurating sacs from any cause. Operators without a real knowledge of these conditions must not be accepted as carrying authority in their assertions that they do not exist outside of limited territory. Men who operate for pain, not for real lesions, must change their ideas of pelvic surgery before they can expect success amid the complications of its real pathology.

An operator who is striving to do necessary work without selection of cases only which must be successful, must meet many things sufficient almost to drive him from the field. Too much conservatism and too much palliative treatment fill our hospitals and homes with constant sufferers, whose delivery must be prompt or death is certain. Such cases at the end are too often cited as a reproach to the efficacy and accomplishments of surgery, when in reality they are the signboards of the dangers of delay and fearful procrastination.

Let us cite the following : From this week's correspondence I will quote from the letters of three physicians living in as many States of the Union. No. 1 says: "Wednesday night I saw a woman who begged me to operate, but I said No, and in about twenty hours I made an autopsy and found a ruptured ovarian abscess and gangrenous gut, caused by a strong band of adhesions. Less than two years ago I warned her of her danger, but she did not heed it. She would not call me in consultation until the last moment, for fear I would advise an operation."

The second physician gives a lengthy history, from which I will make brief extracts. "Consulted over a year ago by a young married lady. Found evidence of tubal disease, with occasional offensive discharge through uterus, apparently consisting of accumula-

tions of pus coming from the right tube. As the patient was up and about and apparently in good health, I did not advise immediate operation, but said I would interfere in case she had another inflammatory attack. Soon afterward the patient had another severe attack of what was called peritonitis, and was told by the attending physician that an operation done at that time would surely be fatal. She recovered slowly, but her sufferings increased to such an extent that she demanded relief, and last spring 'Z' was called in, who curetted the uterus. As this did no good he performed abdominal section; after a long operation, having removed the left tube and ovary, which had not given much trouble, together with an inch or more of the uterine end of the right tube, the patient not unexpectedly went into collapse, and had to be hurried to bed, leaving the right ovary and part of the right tube in place. The patient recovered and did well for a few weeks, when pains returned in region of right ovary. In six weeks she was taken with severe spasms. The wound, however, now reopened and began to discharge pus, and a general practitioner was called, who treated the case with a good deal of discretion, according to his light. Several weeks ago a mass was found behind the uterus, so another gynecologist was called, who opened the mass and put in a drainage-tube. The nervous symptoms, if anything, were worse than ever, and so after seeing the poor girl suffer a few weeks more, the husband finally came around to see your humble servant. I found purulent discharge enough to soak two napkins in twenty-four hours. Violent clonic spasms every few days, with opisthotonos; patient feels her strength and health are giving way and clamors for an operation, preferring death to her present sufferings." I will briefly state that a complete removal of diseased organs was made, and at last accounts the patient was doing well.

Case III. is sad and brief. She was seen by half a dozen consultants. Had been suffering agonizing pain for more than a month; high temperature, rapid pulse, pelvis completely choked. I saw her, the seventh consultant, and urged section. The physician writes me: "Section was made by Dr. Blank the third day following your visit. A large quantity of pus was found in the peritoneum; removal of the appendages was impossible, owing to extensive adhesions. The patient rapidly sank and died two hours after operation."

To fortify my position as to what can be done in these desperate

cases, I will cite case IV, which came to me in to-day's correspondence from a distinguished operator and teacher. January 25, 1891. "Two weeks ago I made a section on a puerperal woman just one month after confinement; she was profoundly septic, with pulse 140 and temperature varying from 102° to $103\frac{1}{2}^{\circ}$, and with a tumor on the right side. The intestines were adherent to the abdominal wall and to each other. There was general peritonitis. On carefully separating the coils, stinking pus swelled up into the opening. On removing this and making further exploration, I got into a large pus tube which had ruptured and communicated with the abscess cavity above mentioned. Enucleation, if possible at all, would have killed the patient on the table. She was livid and covered with sweat when the operation was commenced. Irrigation of the pus cavities and packing with gauze were rapidly done, and in fifteen minutes she was again in bed. Though still discharging pus, which for days was fecal in character, she is now free from fever and practically convalescent. Now this patient I would not have touched but for your work, which showed that the puerperal cases can be helped."

Death comes after such delays as those I have just cited in forms varied, fearful and hideous as the nightmare of the battlefield. As Bernutz and Goupi long ago pointed out, tuberculosis (past treatment by hypodermic injections *à la Koch*, or hydrogen by the rectum) is begotten by the presence of pus.

Amyloid kidneys from the same cause entail all the well-known miseries of that complaint. The heart labors under a general exhaustion. Nervous symptoms in all their complexity are entailed, to complete the wreck. All in all, the picture is far from fascinating, supplemented as it so often is by general exhaustion from suppurating tracts and sinuses implicating all the important viscera.

With all this must be contrasted the general efficiency of early operation in such disease. And with such operation is also to be contrasted the so-called conservative operative procedures.

These all are tentative. They promise much, hope more, and accomplish little.

Of such a class is vaginal puncture for pelvic abscess, so-called; of such is electrical manipulation for the restoration of fimbriae, or for destruction of chronic pelvic adhesions. So, likewise, is to be considered aspiration, with all its uncertainty, and massage which is as dangerous as it is inefficient.

V. PATHOLOGY AND ETIOLOGY.

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As to the pathology of inflammation of the uterine appendages and tissues around the uterus: When acutely inflamed, a differential diagnosis of inflammation in the pelvis around the uterus is very difficult, and, except under ether, cannot be made with any degree of certainty in many cases. During the acute stage of septic poisoning after labor or abortion we do have inflammation of the veins and lymphatics, and rarely a phlegmon is found in the cellular tissue, and *very rarely* the poison may extend in the cellular tissue and an acute cellulitis may kill the patient; but such a condition as a chronic cellulitis I cannot say that I have ever seen. I could imagine that in a syphilitic subject we might have the lymphatics which lie in the cellular tissue diseased and surrounded by indurated cellular tissue; but these must be very rare.

When removing diseased Fallopian tubes and ovaries during the acute stage of the formation of a pelvic abscess I have found the connective tissue of the broad ligament oedematous and thickened; but here the real disease is in the tube and ovary, and the connective tissue is only affected by continuity, for when the tubes and ovaries are removed the oedema around soon disappears. In now over four hundred laparotomies done for the removal of diseased tubes and ovaries—the great majority being typical cases of so-called chronic cellulitis—I have never yet found one that could be fairly termed cellulitis. Invariably the abscess has started in or about the Fallopian tube or ovary within the peritoneum. And without hesitation I would say that, nine times out of ten—if not ninety-nine times out of a hundred—what we call pelvic abscess, except during acute sepsis right after labor, starts as a sequel to a salpingitis or ovaritis. Rarely, the vermiform appendix may ulcerate and the disease condition extend to the pelvis and involve the Fallopian tube and ovary and be the starting-point of an abscess in the pelvis about the generative organs.

Now, as to cause: Without any doubt I would place sepsis following labor and abortion as being the cause of salpingitis in the large majority of cases. I am inclined to think that pregnancy renders the tubes more patulous; at any rate, pyosalpinx is much more common in women after labor or abortion than among women never impregnated. Gonorrhœa will cause salpingitis, but its influence in producing pyosalpinx has been greatly overestimated. Tuberculosis and syphilis may also cause salpingitis or engraft itself on a chronic salpingitis. Next to sepsis after labor, in the past at least, I would place sepsis following the use of dirty instruments or hands in examining and operating, and especially by the use of vaginal tampons and all kinds of tents or any surgical contrivance which results in obstructing drainage from the uterus, for when the os is obstructed uterine contractions may force mucus, etc., out through the tubes and cause a local peritonitis. Then would come the use of stem pessaries and soft-rubber vaginal pessaries left in longer than twenty-four hours.

